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RECENTLY PUBLISHED RESEARCH OF THE MOSCOW TEXTILE INSTITUTE

"Compounds With Quinoid Structures: I. The Mechanism of the Reaction of p-Quinones with Alkali Bisulfates," D. A. Bochvar, A. S. Chernyshev, M. M. Shemyakin, Moscow Textile Inst

"Zhur Obshch Khimii" Vol 15, 1945, pp 844-57

$KHSO_3$ and K 1,4-naphthoquinone-2-sulfonate (I) form a crystalline complex which gives a green color with $FeCl_3$, couples with diazobenzenesulfonic acid, reacts with more I to form the quin-hydrone derivative, decolorizes a dilute fuchsin solution, and gives with Cl a deep yellow solution from which I can be recovered. Boiling the complex with H_2O converts it to an additional compound which shows none of these reactions. The analogous complexes of 1,4-naphthoquinone and K 2-methyl-1,4-naphthoquinone-3-sulfonate give similar reactions. These facts confirm the proposed mechanism in which $KHSO_3$ reacts with quinones to form an oxonium salt which rearranges to the complex. The complex has four resonance forms, three quinoid and one benzenoid. The complex may break down to form the hydroquinone, the initial quinone, and a bisulfate, or in another way to give a hydroquinonesulfonate. The structure of the quinones and the experimental conditions determine the relative concentrations of the different forms of the complex, and this in turn determines the direction of the decomposition.

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The of 1,3-Dinitro-4-Methyl-6-Methoxybenzene for the Synthesis of Analogs of Fast Violet Base B," B. M. Bogoslovskiy, L. M. Tsil'man, Moscow Textile Inst

"Zhur Obshch Khimii" Vol 16, 1946, pp 1263-8

1,3-Dinitro-4-methyl-6-methoxybenzene (20 g) suspended in 100 cc water at 80° was treated with a filtered solution of 32.5 g 50% Na_2S in 80 cc water; after 2 hours at 80-5° the mixture was acidified with HCl, diluted, filtered, and made alkaline with 25% NH_4OH to give 60% 1-amino-3-nitro-4-methyl-6-methoxybenzene, melting at 127-9°° (from EtOH). The product was converted into the N-Ac, Bz, and furoyl derivatives according to Kizhner and Krasova. 4-Methyl-6-methoxybenzenes: 1-furoylamino-3-nitro, melts at 170°; 1-furoylamino-3-amino, melts at 157°; 1-benzamido-3-nitro, melts at 173°; 1-benzamido-3-amino, melts at 125°; 1-acetamido-3-nitro, melts at 162°; 1-acetamido-3-amino, melts at 238°. The amino derivatives applied in the manner of the I. G. Echtviolet B Base in the diazotized state on naphtholated cloths gave red-violet colors, with the Ac derivative giving the reddest shade.

"Preparation of Methoxy Derivatives of Anthraquinone-Acridone and Anthraquinone-Diacridone," B. M. Bogoslovskiy, A. S. Chernyshev, Moscow Textile Inst

"Zhur Obshch Khimii" Vol 16, 1946, pp 1255-62

Details of preparation given.

The products dye cotton various shades of brown and have a high degree of fastness. Being reducible in weakly-alkaline vats, they can be used on animal fibers.

"Vitamin K Group: V. Structure of the Products of the Reaction of 2-Methyl-1,4-Naphthoquinone With Alkali Bisulfites," D. A. Bochvar, M. M. Shemyakin, Moscow Textile Inst

"Zhur Obshch Khimii" Vol 16, 1946, pp 2033-42

Crystalline adducts of alkaline bisulfites to 2-methyl-1,4-naphthoquinone (I) are assigned the structure of 2,3-dihydro-2-methyl-1-oxo-1-naphthol-3-sulfonates, which exist in aqueous solution in equilibrium with the 1,4-dihydroxy-type ionic structure and with resonant forms (4) of the 1,4 ionic structures of the HO.....O-SO_3 type. The $NaHSO_3$ adduct was prepared analogously to the K salt. Neither the Na nor the K salt give a green-blue color with $FeCl_3$; they do not react with diazobenzenesulfonic acid; they do not decolorize dilute fuchsin solutions; addition of saturated K_2CO_3 leads to quantitative precipitation of I,

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and treatment of aqueous solutions of the adducts with Cl causes no reaction. Full details given and structural diagram available.

"Specific Area and Heat of Wetting of Asbestos Fiber," A. V. Kiselev, K. G. Krasil'nikov, Moscow Textile Inst

"Zhur Priklad Khimii" Vol 19, 1946, pp 316-21

The specific area of dry type-3 asbestos fiber, measured by adsorption of butyl alcohol or butyric acid from CCl_4 solution, is 2.10×10^5 sq cm/g, as compared with an external fiber surface area of 460 sq cm/g measured by the microscope. The integral molar heat of wetting of dry, out-gassed (by evacuation) materials is 10.3 ± 0.1 kg-cal/mol.

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